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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,031	02/16/2001	Takenobu Arima	L9289.01114	2507

7590

04/08/2004

STEVENS, DAVIS, MILLER & MOSHER, L.L.P.
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EXAMINER

PERILLA, JASON M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 04/08/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/784,031

Applicant(s)

ARIMA, TAKENOBU

Examiner

Jason M Perilla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3-8/03, 4-4/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-6 are pending in the instant application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted received on April 12, 2001 and August 1, 2003 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, the use of "some" in line 12 and "rest" in line 16 of the claims which limit the *number* of search correlation means does not allow for one skilled in the art to make a definite determination of the number of search correlation means to calculate each of the second and third correlation values. The number of search correlation means assigned to finding the second and third correlation values is definitely defined by the specification (page 10, lines 16-20), but it is indefinite in the

claims. Further, the use of the terms "some" and "rest", as broadly as claimed, poorly embody the invention which makes a clear determination as to how many of the search correlation means are assigned to each of the second and third correlation value determinations.

6. Claims 1-6 are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. It is suggested by the Examiner that the claims are amended to be more clearly written.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (6044104) in view of Papasakellariou (5974080).

Regarding claim 1, Watanabe discloses a communication terminal apparatus comprising: a plurality of search correlation means (fig. 1, ref. 3) for performing correlation detection of a signal transmitted from a base station apparatus to be searched (figs. 2 and 3; col. 2, lines 57-63; col. 3, lines 45-50); and search control means (fig. 1, ref. 8) for controlling a phase for each of said search correlation means to perform the correlation detection (col. 3, line 65-col. 4, line 5), wherein said search control means makes each of said search correlation means calculate a first correlation

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value on every phase over a first integration time (col. 4, lines 9-18), selects a phase with the first correlation value in descending order of the first correlation value (col. 4, lines 19-31), makes each of said search correlation means calculate a second correlation value on a selected phase over a second integration time longer than the first integration time (col. 4, lines 23-31), and specifies a phase with a greatest second correlation value ("cell judgment") as a phase of the signal transmitted from the base station apparatus (col. 4, lines 28-31). Watanabe does not disclose that the peak outputs acquired from the short integration *are first applied to a threshold* before they are placed in descending order based upon peak strength. However, as is notoriously known in the art, Papasakellariou discloses the use of a threshold for filtering out correlation peaks from a short integration before a long integration is performed (fig. 2; col. 2, lines 38-51; col. 6, lines 7-10). Although Watanabe discloses that a threshold is not required (col. 7, line 6), Papasakellariou teaches that the threshold may be effectively utilized to reduce the amount of time superfluously attributed to searching incorrect signal phases. Furthermore, the use of a threshold may be used to quickly reduce the number of possible synchronization states to save the power attributed to searching incorrect phases. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to apply a threshold to the peaks of the first correlation period as taught by Papasakellariou in the apparatus of Watanabe because the speed of the system could be further increased and power could be saved by eliminating incorrect phase peaks quickly.

Regarding claim 4, Watanabe discloses a cell search method, comprising: performing first correlation detection of a transmitted signal to be searched over a first integration time on every phase (figs. 2 and 3; col. 2, lines 57-63; col. 3, lines 45-50); performing second correlation detection over a second integration time (col. 4, lines 23-31) longer than the first integration time in descending order (col. 4, lines 19-31) of the first correlation value; and specifying a phase with a greatest second correlation value in the second correlation detection as a phase of the transmitted signal (col. 4, lines 28-31). Watanabe does not disclose that the peak outputs acquired from the short integration *are first applied to a threshold* before they are placed in descending order based upon peak strength. However, as is notoriously known in the art, Papasakellariou discloses the use of a threshold for filtering out correlation peaks from a short integration before a long integration is performed (fig. 2; col. 2, lines 38-51; col. 6, lines 7-10). Although Watanabe discloses that a threshold is not required (col. 7, line 6), Papasakellariou teaches that the threshold may be effectively utilized to reduce the amount of time superfluously attributed to searching incorrect signal phases. Furthermore, the use of a threshold may be used to quickly reduce the number of possible synchronization states to save the power attributed to searching incorrect phases. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to apply a threshold to the peaks of the first correlation period as taught by Papasakellariou in the apparatus of Watanabe because the speed of the system could be further increased and power could be saved by eliminating incorrect phase peaks quickly.

Allowable Subject Matter

9. No claims are allowed.
10. Claims 2, 3, 5, and 6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references not relied upon above are cited to further show the state of the art with respect to fast acquisition correlators.

U.S. Pat. No. 5910948 to Shou et al; CDMA acquisition system.


U.S. Pat. No. 5812593 to Kaku et al; Code phase detection.

U.S. Pat. No. 5917851 to Jarvela et al; Allocation of rake branches.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M Perilla
March 24, 2004

jmp



STEPHEN CHIN
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